

IN THE CLAIMS:

Claims 1-16, 18-20, 22-24 and 62-66 are presented for examination, wherein claims 1, 6, 7, 10, 16 and 22 have been amended, claims 3-5 and 18-20 have previously been withdrawn from consideration, and new claims 65 and 66 have been added. This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A method of treating an individual suffering from a cancer comprising administering to the individual a therapeutically effective amount of a composition comprising an inhibitor or antagonist of reverse transcriptase encoded by L-1 (LINE-1) retrotransposon in cells of the individual, wherein cancer cells show alternative lengthening of telomeres, wherein the inhibitor or antagonist blocks lengthening of telomeres in telomerase negative cells to thereby limit the occurrence or the proliferation of the cancer cells.
2. (Original) The method of claim 1, wherein the inhibitor or antagonist of the reverse transcriptase comprises an antisense sequence, an inorganic compound, an organic compound, a peptide or a small molecule.
3. (Withdrawn) The method of claim 1, wherein the antisense sequence is capable of hybridizing with a nucleic acid encoding the reverse transcriptase.
4. (Withdrawn) The method of claim 1, wherein the nucleic acid encoding the reverse transcriptase comprises an RNA transcribed from the DNA.
5. (Withdrawn) The method of claim 1, wherein the antisense sequence comprises a chimeric RNA-DNA oligonucleotide.
6. (Currently Amended) The method of claim ~~1~~ 2, wherein the organic compound is a nucleoside analog.

7. (Currently Amended) The method of claim ~~1~~ 2, wherein the organic compound is a nucleoside analog, which is 3'-azido-2',3'-dideoxythymidine (AZT), 2',3'-dideoxyinosine (ddI), 2',3'-didehydro-3'-deoxythymidine (d4T) or ganciclovir or a combination thereof.
8. (Original) The method of claim 1, wherein the cancer is osteosarcoma, breast carcinoma, ovarian carcinoma, lung carcinoma, adrenocortical carcinoma or melanoma.
9. (Original) The method of claim 1, wherein the composition is administered orally, parenterally, subcutaneously, intramuscularly, intravascularly or topically.
10. (Currently Amended) A method for treating a cancer in a human, wherein cancer cells show alternative lengthening of telomeres and L-1 (LINE-1) retrotransposon encoded reverse transcriptase activity, the method comprising administering a therapeutically effective amount of a composition comprising one or more nucleoside analogs, or a pharmaceutically acceptable salt thereof, to the human suffering from the cancer, to thereby limit the occurrence or proliferation of the cancer cells, wherein said nucleoside analogs block said lengthening of telomeres.
11. (Original) The method of claim 10, wherein said nucleoside analogs are selected from the group consisting of: 3'-azido-2',3'-dideoxythymidine (AZT), 2',3'-dideoxyinosine (ddI), 2',3'-didehydro-3'-deoxythymidine (d4T) and ganciclovir.
12. (Original) The method of claim 10, wherein the cancer is osteosarcoma, breast carcinoma, ovarian carcinoma, lung carcinoma, adrenocortical carcinoma or melanoma.
13. (Original) The method of claim 10, wherein the composition is administered orally, parenterally, subcutaneously, intramuscularly or intravascularly.
14. (Original) The method of claim 10, wherein a composition comprising two or more said nucleoside analogs are administered.

15. (Original) The method of claim 10, wherein the one of said nucleoside analogs administered is from about 100 mg/kg of body weight to about 500 mg/kg of body weight per day.
16. (Currently Amended) A method of interfering with lengthening of telomeres in telomerase negative tumor cells, the method comprising administering to the cells an effective amount of an inhibitor or antagonist of reverse transcriptase encoded by L-1 (LINE-1) retrotransposon in the cells wherein the inhibitor or antagonist is a nucleoside analog and blocks said lengthening of telomeres to thereby limit the occurrence or growth of the tumor cells.
17. (Cancelled)
18. (Withdrawn) The method of claim 16, wherein the antisense sequence is capable of hybridizing with a nucleic acid encoding the reverse transcriptase.
19. (Withdrawn) The method of claim 16, wherein the nucleic acid encoding the reverse transcriptase comprises a DNA, an RNA transcribed from the DNA or a cDNA reverse transcribed from the RNA.
20. (Withdrawn) The method of claim 16, wherein the antisense sequence comprises a chimeric RNA-DNA oligonucleotide.
21. (Cancelled)
22. (Currently Amended) The method of claim 16, wherein the nucleoside analog is 3'-azido-2',3'-dideoxythymidine (AZT), 2',3'-dideoxyinosine (ddI), 2',3'-didehydro-3'-deoxythymidine (d4T) or ganciclovir or a combination thereof.

23. (Previously Presented) The method of claim 16, wherein the telomerase negative tumor cells are osteosarcoma, breast carcinoma, ovarian carcinoma, lung carcinoma, adrenocortical carcinoma or melanoma cells.
24. (Previously Presented) A method of preventing or inhibiting the growth of a telomerase negative cell, the method comprising:
contacting the cell with a nucleoside analog, wherein the cell shows L-1 (LINE-1) retrotransposon encoded reverse transcriptase activity and alternative lengthening of telomeres wherein the nucleoside analog blocks said lengthening of telomeres.
- 25-61. (Cancelled)
62. (Previously Presented) The method of claim 1, wherein the composition consists of ganciclovir and a pharmaceutically acceptable carrier.
63. (Previously Presented) The method of claim 10, wherein the composition consists of ganciclovir and a pharmaceutically acceptable carrier.
64. (Previously Presented) The method of claim 16, wherein the composition consists of ganciclovir and a pharmaceutically acceptable carrier.
65. (New) The method of claim 1, further comprising identifying individuals suffering from a cancer, having cancer cells which exhibit alternative lengthening of telomeres and/or are telomerase negative, which express L-1 (LINE-1), and selecting these individuals for treatment with the therapeutically effective amount of the composition.
66. (New) A method of treating an individual suffering from a cancer consisting essentially of administering to the individual a therapeutically effective amount of a composition consisting essentially of an inhibitor or antagonist of reverse transcriptase encoded by L-1 (LINE-1) retrotransposon in cells of the individual and a pharmaceutically acceptable carrier, wherein cancer cells show alternative lengthening of telomeres and wherein the

inhibitor or antagonist is ganciclovir and blocks lengthening of telomeres in telomerase negative cells.